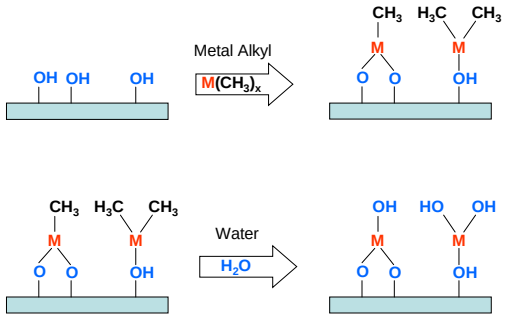
Argonne's Catalysis R&D

For making gasoline or diesel

- By using nanotechnology and a technique called “atomic layer deposition,” Argonne scientists can make catalysts “atom by atom,” thus controlling the catalyst’s composition and structure at the molecular level.
- Because the performance of a catalyst is related to its composition and structure, the goal is to improve the efficiency of the catalytic reactor, allowing less costly air, instead of expensive oxygen, be used in the gasifier.



For making ethanol

- For use as an automotive fuel, ethanol must be free of water. Current processes for producing ethanol, such as fermentation, produce “wet” ethanol (a mixture of ethanol and water). Drying ethanol is a costly, energy-intensive process.
- Argonne scientists have developed a catalytic process for producing “dry ethanol” (water-free ethanol) from methanol, which is produced from syn gas, thus eliminating the costly drying step.